

WHAT IS CLAIMED IS:

1. An ultrasonic surgical system having a main unit that includes: a driving signal generator for generating a driving signal used to oscillate and drive an ultrasonic transducer in a handpiece; an output unit for outputting the driving signal output from said driving signal generator and destined for said ultrasonic transducer in said handpiece; a manipulation signal sense unit for sensing an input manipulation signal; a control unit for controlling said driving signal generator according to the manipulation signal sensed by said manipulation signal sense unit; and a manipulation signal input unit for inputting the manipulation signal, and transmitting ultrasonic waves generated by said ultrasonic transducer incorporated in said handpiece so as to operate a living tissue, said ultrasonic surgical system comprising:

an extension unit including: an input unit for inputting the manipulation signal with a hand switch, which produces the manipulation signal, connected thereto; an input unit for inputting the manipulation signal with a foot switch, which produces the manipulation signal, connected thereto; and an output unit for outputting the manipulation signal, which is produced based on a manipulation performed on said hand switch or foot switch and input to said input

unit, to said manipulation signal input unit in said main unit.

2. An ultrasonic surgical system having a main unit that includes: a driving signal generator for generating a driving signal used to oscillate and drive an ultrasonic transducer in a handpiece; an output unit for outputting the driving signal output from said driving signal generator and destined for said ultrasonic transducer in said handpiece; a manipulation signal sense unit for sensing an input manipulation signal; a control unit for controlling said driving signal generator according to the manipulation signal sensed by said manipulation signal sense unit; and a manipulation signal input unit for inputting the manipulation signal, and transmitting ultrasonic waves generated by said ultrasonic transducer incorporated in said handpiece so as to operate a living tissue, said ultrasonic surgical system comprising:

an extension unit including: an input unit for inputting a driving signal with said driving signal output unit in said main unit connected thereto; a plurality of output units for outputting the driving signal input to said driving signal input unit to the ultrasonic transducers in a plurality of handpieces; a switching unit for switching the plurality of output units to select an output unit for

outputting the driving signal; an input unit for inputting a manipulation signal with at least one of a hand switch and a foot switch, which produce the manipulation signal, connected thereto; and an output unit for outputting the signal input to said manipulation signal input unit to said manipulation signal input unit in said main unit.

3. An ultrasonic surgical system having a main unit that includes: a driving signal generator for generating a driving signal used to oscillate and drive an ultrasonic transducer in a handpiece; an output unit for outputting the driving signal output from said driving signal generator and destined for said ultrasonic transducer in said handpiece; a manipulation signal sense unit for sensing an input manipulation signal; a control unit for controlling said driving signal generator according to the manipulation signal sensed by said manipulation signal sense unit; and a manipulation signal input unit for inputting the manipulation signal, and transmitting ultrasonic waves generated by said ultrasonic transducer incorporated in said handpiece so as to operate a living tissue, said ultrasonic surgical system comprising:

an extension unit including: an input unit for inputting a driving signal with said driving signal output unit in said main unit connected thereto; a plurality of

output units for outputting the driving signal input to said driving signal input unit to the ultrasonic transducers in a plurality of handpieces; a switching unit for switching said plurality of output units to select an output unit for outputting the driving signal; a remote control unit for controlling said switching unit; an input unit for inputting a manipulation signal with at least one of a hand switch and foot switch, which produce the manipulation signal, connected thereto; and an output unit for outputting the signal input to said manipulation signal input unit to said manipulation signal input unit in said main unit.

4. An ultrasonic surgical system according to claim 2, wherein said switching unit for switching output units through which said driving signal is output is controlled based on a manipulation performed on said hand switch or foot switch.

5. An ultrasonic surgical system according to claim 3, wherein said remote control unit is a switch connected to said main unit or extension unit so that it can be unconnected freely.

6. An ultrasonic surgical system according to claim 3, wherein said remote control unit is a dedicated selection

switch connected to said extension unit so that it can be unconnected freely.

7. An ultrasonic surgical system according to claim 3, wherein said remote control unit is realized with said hand switch or foot switch for controlling said driving signal generator in said main unit.

8. An ultrasonic surgical system according to claim 1, ~~2, or 3,~~ wherein said hand switch is freely detachably attached to the operation unit of said handpiece.

9. An ultrasonic surgical system according to claim 1, ~~2, or 3,~~ wherein said hand switch is incorporated in said handpiece, and the operating portion of said switch is bared on the operation unit of said handpiece.

10. An ultrasonic surgical system according to claim 2 ~~or 3,~~ further comprising a report unit for reporting using a sound which of output units has been selected by said switching unit for switching said plurality of driving signal output units to select one of them.

11. An ultrasonic surgical system according to claim 1, ~~2, or 3,~~ further comprising a manipulation signal production

unit for producing a signal based on a manipulation signal stemming from said hand switch or foot switch, wherein the signal produced by said signal production unit is supplied to an output unit for outputting a signal to said manipulation signal input unit in said main unit.

12. An ultrasonic surgical system according to claim 11, wherein said signal production unit isolates said main unit from said handpiece.

~~13.~~ 13. An ultrasonic surgical system having a main unit that includes: a driving signal generator for generating a driving signal used to oscillate and drive an ultrasonic transducer in a handpiece; an output unit for outputting the driving signal output from said driving signal generator and destined for said ultrasonic transducer in said handpiece; a manipulation signal sense unit for sensing an input manipulation signal; a control unit for controlling said driving signal generator according to the manipulation signal sensed by said manipulation signal sense unit; and a manipulation signal input unit for inputting the manipulation signal, and transmitting ultrasonic waves generated by said ultrasonic transducer incorporated in said handpiece so as to operate a living tissue, said ultrasonic surgical system comprising:

a perfusing means for supplying a fluid to said handpiece through a fluid supply tube;

a sucking means for sucking a pulverized tissue and a fluid from said handpiece through a suction tube; and

a means for, when an ultrasonic suction handpiece is selected, giving control to allow said main unit and extension unit to communicate with each other for actuating at least one of said perfusing means and sucking means synchronously with output of ultrasonic waves.

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